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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,843	01/29/2004	Isao Yahagi	Q79511	2336

23373 7590 12/28/2004  
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WASHINGTON, DC 20037

EXAMINER

CHU, JOHN S Y

ART UNIT PAPER NUMBER

1752

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/765,843

Applicant(s)

YAHAGI, ISAO

Examiner

John S. Chu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/16/04</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

This Office action is in response to the application filed October 23, 2003.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by STAHLHOFEN et al '310.

The claimed invention is drawn to the following:

**1. A positive photosensitive composition comprising a quinonediazide compound, a novolak resin, a compound reacting with the novolak resin by the action of an acid, and a compound generating an acid by heating.**

STAHLHOFEN et al anticipates the claimed invention at Example 1 and 3, found in column 5, lines 15-40, wherein the Example 1 is shown below:

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**EXAMPLE 1**

An electrochemically grained and anodically oxidized aluminum sheet was coated with a solution of

1.600 parts by weight	of the esterification product of 1 mole of 2,3,4-trihydroxy-benzophenone and 3 moles of 1,2-naphthoquinone-2-diazide-5-sulfonic acid chloride,
6.400 parts by weight	of a cresol-formaldehyde novolak having a softening range from 127° to 145° C.,
0.200 parts by weight	of 1,2-naphthoquinone-2-diazide-4-sulfonic acid chloride,
0.070 parts by weight	of crystal violet,
0.400 parts by weight	of bis-(4-hydroxyphenyl)-sulfone, and
0.200 parts by weight	of a non-plastified-melamine-formaldehyde resin etherified with isobutyl, in
40.00 parts by weight	of ethylene glycol monomethyl ether, and
55.00 parts by weight	of tetrahydrofuran.

In Example 1 the claimed quinonediazide compound is met by the 1,2-naphthoquinone-2-diazide sulfonic acid, the novolak resin is met by the cresol-formaldehyde novolak, a compound reacting with the novolak is the non-plastified melamine-formaldehyde resin and the compound generating an acid by heating is the esterification product of 2,3,4-trihydroxybenzophenone of 1,2-naphthoquinonediazide-5- sulfonic acid chloride. The the esterification product of 2,3,4-trihydroxybenzophenone of 1,2-naphthoquinonediazide-5- sulfonic acid chloride is known to be thermal sensitive and upon heating form an indene carboxylic acid (carboxylic acid) and thus meets the recited limitations of claims 1 and 3.

3. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by INOMATA et al.

The claimed invention has been recited above and is included by reference.

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INOMATA et al anticipates the claimed invention at Examples 6 – 9, found on page 9,Table 3. Example 6 discloses each of the recited components as claimed, see the Table 3 below:

TABLE 3

	Phenolic resin (A)		Phenolic compound (a)		Quinonediazide compound (B)		Crosslinked fine particles (C)		Curing agent (D)		Acid generator (E)		Solvent (F)	
	Type	Parts	Type	Parts	Type	Parts	Type	Parts	Type	Parts	Type	Parts	Type	Parts
Ex. 6	A-1	100	—	—	B-1	20	C-1	10	D-1	15	E-1	2	F-1	147
Ex. 7	A-2	100	—	—	B-1	23	C-1	12	D-1	15	E-1	2	F-1	152
Ex. 8	A-1	90	a-1	10	B-2	20	C-1	10	D-2	20	E-1	3	F-1	153
Ex. 9	A-1/ A-3	90/10	—	—	B-1	20	C-1	10	D-1	20	E-1	2	F-2	130
Ex. 10	A-1	100	—	—	B-1	20	C-1	10	D-1	20	E-2	2	F-1	152
Comp. Ex. 5	A-1	100	—	—	B-1	20	C-1	10	D-1	15	—	—	F-1	145
Comp. Ex. 6	A-1	100	—	—	B-1	20	C-1	10	—	—	—	—	F-1	130
Comp. Ex. 7	A-1	100	—	—	B-1	20	—	—	D-1	15	—	—	F-1	135
Comp. Ex. 8	A-1	100	—	—	B-1	20	—	—	D-1	15	E-1	2	F-1	137
Comp. Ex. 9	A-1	100	—	—	B-1	20	C-1	10	—	—	E-1	2	F-1	132

The examiner directs the application to the disclosed Phenolic resin (A) Table 3 wherein this disclosure meets the claimed novolak resin. The disclosed Quinonediazide compound (B) of Table 3 meets the claimed quinonediazide. The Curing agent (D) meets “a compound reacting with the novolak resin by the action of an acid” and Acid generator (E) meets the claimed compound generating an acid by heating. The examiner further directs the applicant to page 5, subparagraphs [0092] – [0094] wherein the acid generating compounds are disclosed to be thermal acid generators. Thus the claims are clearly anticipated by the disclosure of INOMATA et al.

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The processing steps of claim 5 are met by the disclosure on page 7, subparagraph [0151] and [0152] wherein the insulating film is coated, heated, exposed and developed. The examiner notes that claim 5 uses "comprising" language such that the steps disclosed can be in any order.

No claim is allowed.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. UENISHI et al '512, WINKLE and SHIOTA et al are recited of interest to disclose composition comprising crosslinking agents.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Chu whose telephone number is (571) 272-1329. The examiner can normally be reached on Monday - Friday from 9:30 am to 6:00 pm.

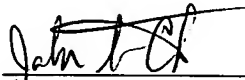
The fax phone number for the USPTO is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PMR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
\_\_\_\_\_  
John S. Chu  
Primary Examiner, Group 1700

J.Chu  
December 13, 2004